LEBEDENKO, M.

Order placed with the industry. Tekh.mol. 28 no.6:28-29 '60. (MIRA 13:7)

1. Chlen kinofotosektsii Doma uchenykh Ob"yedinennogo instituta yadernykh issledovaniy, g.Dubna.
(Motion-picture photography--Equipment and supplies)

LEBEDENKO, M.M.

12th International Conference on High Energy Physics in Dubna.
Vest. AN SSSR 34 no.12:33-40 D '64 (MIRA 18:1)

LEBEDENKO, N. K.

GATSENKO, Ye.G.; LEBEDENKO, N.K.

Result of the treatment of chronic prostatitis by Vishnevskii's perisacral novocaine block. Vest.derm. i ven. 31 no.3:45-46 My-Je '57. (MIRA 10:11)

(PROCAINE, therapeutic use,
prostatitis, perisacral nerve block (Rus))
(ANESTHESIA, REGIONAL, therapeutic use,
procaine perisacral block in prostatitis (Rus))
(PROSTATITIS, therapy,
procaine perisacral block (Rus))

LEBEDENKO, Petr Pavlovich, polkovnik v otstavke; ARISTOV, V.I., red.

[At the bend of the Don] V izluchine Dona. Moskva, Voenizdat, 1965. 171 p. (MIRA 18:4)

TIMOFEYEVA, L.V.; LEBEDENKO, T.D.

Preliminary data on expected lealth and epidemic conditions in the area around Krasnoyarsk Reservoir. Med.paraz. i paraz. bol. 27 no.1: 27-29 Ja-F '58. (MIRA 11:4)

1. Iz sektora bor'by s parazitarnymi zabolevaniyami pri stroitel'stve gidrotekhnicheskikh i meliorativnykh sooruzheniy Instituta malyarii, meditsinskoy parazitologii i gel'mintologii Ministerstva zdravookhraneniya SSSR (dir. instituta - prof. P.G.Sergiyev, zav. sektorom - prof. V.N.Beklemishev) i iz Krasnoyarskoy krayevoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach S.I.Nozik)

(WATER SUPPLY,
sanitary epidemiol. cond. around water reservoir (Rus))

TIMOFEYEVA, L. V.; GRASIS, V. K.; MERINOV, V. A.; LEBEDENKO, T. D.; REHBERG, M. S.

Method of survey with reference to tick encephalitis and gnats in the exploration of new territories. Med. paraz. i paraz. bol. no.6:710-715 '61. (MIRA 15:6)

1. Iz Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye. I. Martsinovskogo Ministerstva zdravookhraneniya SSSR (dir. - prof. P. G. Sergiyev) i Krasnoyarskoy krayevoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach S. I. Nozik)

(ENCEPHALITIS) (DIPTERA)

- LEBEDENKO, V.A., inzh.

Modern technological processes in the electrical equipment industry.
Vest. elektroprom. 33 no.8:1-4 Ag '62. (MIRA 15:7)
(Electric equipment industry)

BOBRO, Yu.G., kand.tekhn.nauk; LYUBCHENKO, A.P., kand.tekhn.nauk;
LEBEDENKO, V.V., kand.tekhn.nauk

Effect of heat treatment on the alpha-phase substructure of cast iron. Metalloved. i term. obr. met. no.5:43-45 My '61.
(MIRA 14:5)

1. Khar'kovskiy politekhnicheskiy institut.
(Cast iron--Metallography)
(Metals, Effect of temperature on)

LEBEDENKO, Z.F.

AVTSINA-CHERNOMORDIK, A.S.; GULIAYEVA, N.I.; LEBEDENKO, Z.F.

Symmetric teeth extraction in the treatment of certain forms of malocclusion. Stomatologiia no.1:55-58 Ja-F '55. (MLRA 8:5)

1. Iz kafedry ortopedicheskoy stomatologii (zav. prof. V.Yu. Kurlyandskiy) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. dotsent G.N.Beletskiy).

(MALOCCLUSION, therapy,
teeth extraction, symmetric)
(TEETH EXTRACTION, in various diseases,
malocclusion, symmetric extraction)

LEBEDENKO, Z.F.

Orthodontic repair of malocclusion caused by parodontitis.
Stomatologiia 35 no.4:51-55 Jl-Ag '56. (MLRA 10:4)

1. Iz kafedry ortopedicheskoy stomatologii (zav.-prof.V.Yu. Kurlyandskiy) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir.-dotsent A.N. Beletskiy)
(GUMS--DISEASES) (TEETH--ABNORMITIES AND DEFORMITIES)

LEBEDENKO, Z F.

LEBEDENKO, Z.F.

Changes in sensitivity to cold of the gingival mucosa following orthodontic treatment of parodontitis. Stomatologiia 36 no.4: 66-69 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry ortopedicheskoy stomatologii (zav. - prof. V.Yu Kurlyandskiy) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N.Beletskiy)
(GUMS--INNERVATION)

L[illegible]KO, Z.F., C nd Med Sci--(diss) "Orthop dic treatment and the reaction of the mucous lining of the gum to cold in myxedematosis." [illegible], 1958. 11 pp (Min of Health RSFSR. Central Ortopedic Inst), 200 copies (KL,27-58, 119)

LEBEDENKO, Z.F.

Reaction of the gingival mucosa in the orthodontic displacement of upper teeth. Stomatologiia 40 no.4:72 Jl-Ag '61. (MIRA 14:11)

1. Is kafedry ortopedicheskoy stomatologii (zav. - prof. V.Yu. Kurlyandskiy) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N.Beletskiy).
(ORTHODONTIA)

AUTHOR: Lebedenko-Yudkin, M.M. (Moscow) SOV/26-58-1-30/36

TITLE: Modern Aquarium Technics (Sovremennaya akvarial'naya tekhnika)

PERIODICAL: Priroda. 1958, Nr 1, pp 117-118 (USSR)

ABSTRACT: The author is concerned with modern aquarium equipment, useful in keeping tropical fish and in facilitating spawning conditions. He describes devices that heat and aerate the aquarium, and other gadgets that are offered for sale and enjoy a large distribution in the US.
There are 5 photos and 2 diagrams.

Card 1/1

LEBEDEV, A., tekhnik-mekhanik po remontu i ekspluatatsii avtomobiley.

Safety track. Za bezop.dvizh. 3 no.7:4-5 Jl '60.
(MIRA 13:8)
(Motor vehicles--Maintenance and repair)

LEBEDEV, A., polkovnik

Ideological and political training of military personnel. Komm. Vooruzh. Sil 46 no.5:41-47 Mr '65. (MIRA 18:4)

1. Nachal'nik otdela propagandy i agitatsii politicheskogo upravleniya Moskovskogo voyennogo okruga.

LEBEDEV, A., inzh.

Technical progress and psychophysiology. Prof.-tekh. obr. 19 no.8:22-23 Ag '62. (MIRA 15:12)
(Psychology, Physiological)

LEBEDEV, A. (Pavlovo Gor'kovskoy obl.); SVERLOV, N. (Kirillov Vologodskoy obl.); BATMANOV, G. (Tambov); MOKROUSOV, Ye. (Moskovskaya obl.)

Repaired by amateurs. Radio no.9:34 S '64. (MIRA 17:12.

LEBEDEV, A.

Interests should coincide. Standartizatsiia 29 no.6:42-43 Je '65. (MIRA 18:12)

1. Chlen obshchestvennogo komiteta po nadezhnosti i kontrolyu kachestva pri Vsesoyuznom sovete nauchno-tekhnicheskikh obshchestv.

LEBEDEV, Anatoliy

Animal travelers. Znan. sila 36 no. 5:29-32 My '61. (MIRA 14:5)

(Animals—Transportation)

Out of touch with present situation ("Turning" by V.A. Serebrovskii). Mashinostroitel' no. 2:46 F '61. (MIRA 14:2)
(Turning)

LEBEDEV, A.

Problem of reliability of radio and electronic equipment in the U.S.A. Radio no.8:57-58 Ag '60. (MIRA 13:9)
(United States--Electronic apparatus and appliances)

LEBEDEV, A., master sporta

New sails for sports competitors. Voen. znan. 41 no.10:47 O '65.
(MIRA 18:10)

LEONTIEV, . . .

Variability over a period of several years of the thermal regime of water and the ice conditions in the North Atlantic and adjacent seas. Trudy TSIP no.146:93-94 '65.

Method of forecasting the ice conditions in the North Atlantic and adjacent seas. Ibid.:95-97 (MIRA 18:9)

LEBELEV, A.A.

Foreword. Steklobr. sost. no.1:3-4 '63. (MIRA 17:10)

41359

S/081/62/000/017/093/102
B177/B186

15.8360

AUTHOR: Lebedev, A. A.

TITLE: An investigation of plastic bearings with a rotating friction couple

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 545, abstract 17P87 (In collection: Plastmassy v mashinostr. i priborostr., Kiyev, Gostekhizdat USSR, 1961, 335-340)

TEXT: The author demonstrates the possibility and advantages (improved heat response and increased load-bearing capacity) of using the laminated wood plastic ДСП-В (DSP-V) (with transverse veneer) as a substitute for non-ferrous metals in bearings subject to a rotating friction couple, in which the shaft and not the bearing shell is coated with plastic. It was found from the experiments, that the performance of a laminated wood plastic bearing with a rotating friction couple, lubricated with mineral lubricants of the machine-oil type, is quite stable and gives the minimum coefficient of friction at sliding speeds of 0.7 - 2.8 m/sec when under specific pressures of 25 - 30 kg/cm^2. The best angle at which

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to feed the lubricant in order to reduce the coefficient of friction and the temperature in the most strongly heated zone is 180 - 210°. On reducing the relative clearance from 0.03 to 0.012 with oil lubrication, the temperature and the coefficient of friction are reduced. With water lubrication, the size of the clearance was found to have no effect on the temperature and coefficient of friction. [Abstracter's note: Complete translation.]

Card 2/2

LEBEDEV, A. A.

"Investigation of the Effect of the Conditions and Individual Factors on the Spectrophotometric Determination of Printing Inks." Cand Tech Sci, Moscow Polygraphic Inst, Min Higher Education USSR, Moscow, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

LEBEDEV, A. A. Cand Agr Sci -- (diss) "Effectiveness of various types of fattening of the large white breed of Sheksna hogs." Tutayev, 1959. 13 pp (All-Union Sci Res Inst of Animal Husbandry), 150 copies (KL, 46-59, 139)

LEBEDEV, A.A.

Instrument for the measurement of acceleration. Fiz. v shkole 19 no.1:106 Ja-F '59. (MIRA 12:3)

1. Pedagogicheskiy institut, g. Yaroslavl'.
(Motion--Measurement)

LEBEDEV, A. A. 57/49T3

USSR/Biology Apr 49
Ants
Symbiosis

"An Original Symbiosis," A. A. Lebedev, ½ p

"Priroda" No 4

Describes his work on symbiosis in regard to birch and spruce trees as affected by ants. Describes recent confirmation of earlier discoveries that anthills play a fairly important part in the growth of forests. Underground passages interweaving with roots of trees are believed to have a beneficial effect in aeration which is ordinarily weak in thick forests.

[redacted] 57/49T3

MALYSHEV, A.A.; LEBEDEV, A.A.; OVCHINNIKOV, D.T.

Bark peeling machine for mechanical cleaning of laths and slabs. Rats. i izobr. predl. v stroi. no.71:22-24 '53.
(Bark peeling) (MLRA 9:6)

VORONIN, Ivan Vasil'yevich; VOSKRESENSKIY, Dmitriy Alekseyevich; KOZLOV, Nikolay Andreyevich; LEBEDEV, Arseniy Andreyevich; PERKPECHIN, Boris Mikhaylovich; SUDACHKOV, Yevgeniy Yakovlevich, kand.ekon. nauk; CHULITSKIY, Lev Dmitriyevich; KARASIKOV, S.A., prepodavatel', retsenzent; MOTOVILOV, G.P., doktor sel'skokhoz.nauk, red.; SHAKHOVA, L.I., red.izd-va; FUKS, Ye.A., red.izd-va; BACHURINA, A.M., tekhn.red.

[Forestry economics; organization and production planning] Ekonomika lesnogo khoziaistva; organizatsiia i planirovanie proizvodstva. Moskva, Goslesbumizdat, 1958. 292 p. (MIRA 12:3)

1. Khrenovskiy tekhnikum lesnogo khozyaystva (for Karasikov).
(Forests and forestry--Economic aspects)

L

USSR/Meadow Cultivation.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 39120.

Author : Lebedev, A.A.
Inst : Kalinin State Ped. Institute.
Title : The Meadows of the Kalinin Rayon and of the Downstream Part of the River T'ma.

Orig Pub: Uch. zap. Kalininsk. gos. ped. in-t, 1956, 20, 75-103.

Abstract: A geobotanical-economic description of meadow-pastural area of the surveyed region, which contains absolute dry gaps, damp meadows in forest clearings, damp and lowland meadows, also meadow lowland swamps and water meadows, is given in this study. All these types of meadows do not produce, either qualitatively or quantitatively, sufficient crops of

Card : 1/2

LEBEDEV, A.A.

Forage plants from the flora of the upper Volga Valley. Trudy Bot.inst.Ser.6 no.7:210-211 '59. (MIRA 13:4)

1. Kalininskiy gosudarstvennyy pedagogicheskiy institut im.M.I. Kalinina.
(Volga Valley--Forage plants)

GAUER, F. I. (Odessa); LEBEDEV, A. A. (Odessa)

Traveling pumping station with a PM30-1 disinfecting unit. Vod. i san. tekh. no.9:16-18 S '60. (MIRA 13:11)
(Pumping stations)
(Water--Purification)

LEBEDEV, A.A.

Hydrothermal stage of the serpentinization of kimberlites in connection with the find of brucite in them. Trudy IAFAN SSSR. Ser.geol. no.8:74-86 '62. (MIRA 15:7)
(Muna Valley (Yakutia)--Kimberlite)
(Muna Valley (Yakutia)--Brucite)

S/137/61/000/012/076/149
A006/A101

AUTHORS: Privalov, I.I., Nagovitsyn, D.F., Lebedev, A.A., Rakevich, K.A., Kondrat'yev, S.N.

TITLE: The effect of the weight and reduction of an ingot on the number of macro-inclusions

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 3-4, abstract 12D21 ("Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chern. metallov", 1960, no. 8, 22 - 32)

TEXT: Non-metallic inclusions in steel are composed of sulfides and oxy-silicates (aluminum oxides Al_2O_3 and silicates SiO_2) which occur in the steel as macro-inclusions and impair its quality. Macro-inclusions are distributed over the height basically in a gradually decreasing amount from the bottom to the top section, where the number of macro-inclusions increases again. The depth of occurrence of the macro-inclusions in a 2.5 ton ingot is on the average 4.75-95.75 mm from the lateral surface, and 15.5 - 21.3 mm in a 3.5 ton ingot; it is 2 - 5.25 mm in blooms of 440 mm size, obtained from a 6.7 ton ingot. The displacement of inclusions for different cases of rolling is discussed. Thus, when

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S/137/61/000/012/076/149
A006/A101

The effect of the weight and reduction ...

rolling the ingots on a blooming mill, the macro-inclusions are shifted towards the bloom surface. During the rolling of pipes, sheets and other articles directly from the ingot, macro-inclusions are shifted from the peripheral layers to those adjoining the butt surface. When rolling wheels directly from a 3.5 ton ingot, the macro-inclusions do not reach the peripheral layers during the shift. Tables and diagrams are given showing the occurrence depth of macro-inclusions in ingots of different weight.

I. Getiya

[Abstracter's note: Complete translation]

Card 2/2

33303
S/560/61/000/010/001/016
D299/D302

3.2430 (1482,2806)
17.2450

AUTHORS: Yefremov, A. I., Podomoshenskiy, A. L., Yefimov, O. N., and Lebedev, A. A.

TITLE: Study of short-wave radiation of the sun

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no. 10. Moscow, 1961, 3-11

TEXT: The apparatus was installed in the 2nd Soviet sputnik. Depending on the orientation of the space-ship, the various photon-counter units were switched on and off. The "zero" (i.e., the reading when the entrance window was covered by an aluminum film 1 mm thick) was basically determined by radiation penetrating the photon-counter unit through the gaps between the entrance window and the discs with filters. Owing to the little sensitivity of the apparatus to hard X-rays, no significant increase in the "zero"-level was observed in the polar regions. The effect

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Study of short-wave...

of charged-particle flow on the readings was accounted for by means of a special tungsten-plate in front of one of the entrance windows; this effect was found to be negligible. Sample-readings (taken on August 19, 1960) for a photon-counter with a BeO photo-cathode are shown in a figure; another figure shows the readings for a SrF_2 photo-cathode. Each figure has 3 parts indicating the readings for various positions of the disc with filters. The area and thickness of the Cu, Be, Al, $(CH)_n$ - filters are also indicated. The figures show the variations in the readings due to the rotation of the space-ship. A comparison of the curves corresponding to the SiO_2, LiF and CaF_2 -filters with those for Al, $(CH)_n$, Be and Cu -filters permitted ascertaining the X-ray level registered. The results of data processing led to the following conclusions: (1) The radiation in the 44 - 110 Å range ($(CH)_n$-filter) was constant to an accuracy of

Card 2/4

± 8%, corresponding to $1.5 \cdot 10^7$ counts $\cdot$ cm^{-2} $\cdot$ sec.$^{-1}$. (2) The radiation in the 8 - 21 Å range (Al-filter) was constant ($6.2 \cdot 10^4$ counts $\cdot$ cm^{-2} $\cdot$ sec.$^{-1}$) except for the time between 15 hr. 45 min. and 15 hr. 54 min., when it increased by a factor of 3.2, and also between 14 hr. 24 min. and 14 hr. 28 min., when it increased by 63%. (3) In the region below 8 Å (Be-filter), the radiation was very weak and often could not be distinguished from the background radiation of non-solar origin. (4) During increased solar activity, the radiation in the 5 - 10 Å range (Be-filter) increased elevenfold. (5) In the 1.4 - 3 Å range (Cu-filter), only background radiation of non-solar origin was recorded. In order to determine the energy flux from the recorded data, it was assumed that the spectral distribution of the radiation follows the law of black-body radiation (Planck's

Study of short-wave...

Law). A figure shows the dependence of output signals on sun temperature for a receiver with BeO-photocathode and Cu, Be, Al, and $(CH)_n$-filters. Another figure shows the spectral distribution of the short-wave radiation. It was found that the radiation fluctuations are constant for wavelengths shorter than 20 Å and in particular for those shorter than 10 Å. The temperature of the quiescent corona was found to be almost double the value obtained by American investigators (Ref. 3: H. Friedman, Trans. Intern Astr. Un., 10, 706, 1960, Cambridge Univ. Press.). The observed flare, too, corresponds to a higher temperature $6.5 \cdot 10^6$ °K as compared to $(4 \div 2) \cdot 10^6$ °K). There are 7 fi- and 3 references : 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Friedman, Trans. Intern. Astr. Un., 10, 706, 1960, Cambridge Univ. Press.

SUBMITTED: April 10, 1961

Card 4/4

LEBEDEV, A.A.

Alkalinity and differentiation of kimberlite magma. Trudy IAFAN AN SSSR Ser. geol. no.9:88-98 '63. (MIRA 16:12)

LEBEDEV, A.A.; SMIRNOV, G.I.

Serpentinization in kimberlites. Trudy IAFAN AN SSSR Ser. geol. no.9:103-105 '63. (MIRA 16:12)

LEBEDEV, A.A.

How ice is formed in the ocean. Geog. v shkole 20.no.2:55-57 Mr-Ap '57. (MLRA 10:4)

(Ice) (Ocean)

LEBEDEV, A.A.

Effect of geomagnetic disturbances on the measurement of currents by the electromagnetic method in the Barents Sea. Trudy GOIN no.40:50-56 '57. (MLRA 10:7)

(Barents Sea--Ocean currents)

L 31958-66 EWT(1) GW
ACC NR: AT6016353 (N) SOURCE CODE: UR/2634/65/000/087/0032/0050

AUTHOR: Lebedev, A. A.

ORG: none

TITLE: Changeability of sea-ice conditions in the northwestern Atlantic

SOURCE: Moscow. Gosudarstvennyy okeanograficheskiy institut. Trudy, no. 87, 1965. L'dy i termika morey (Ice and thermal conditions of seas), 32-50

TOPIC TAGS: sea ice, hydrometeorology, solar activity

ABSTRACT: The results are given of investigating seasonal and yearly changeability of sea-ice conditions in the Labrador Sea and Davis Strait. General regularities of such a changeability were established. The dependence of sea-ice conditions on the earlier hydrometeorological processes in these regions was determined. Correlations were obtained permitting the forecasting of general sea-ice conditions and sea-ice boundaries at individual latitudes 2—4 months in advance. Changes in sea-ice conditions over many years in the Davis Strait were examined in connection with the general atmospheric circulation and with solar activity. Orig. art. has: 7 figures and 11 tables. [NT]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 016/ OTH REF: 013

Card 1/1 UDC: 551.46(261) + 551.326(018)

LEBEDEV, A.A.

Year-to-year variability of the iciness and thermal conditions of the waters of the North Atlantic and adjacent seas. Trudy TSIP no.142:28-32 '65. (MIRA 18:10)

L 40843-66 EWT(m) JAJ/DJ

ACC NR: AP6010025 SOURCE CODE: UR/0113/66/000/003/0016/0016

AUTHOR: Lebedev, A. A. (Candidate of technical sciences); Matveyev, V. V. (Candidate of technical sciences)

35
B

ORG: none

TITLE: The stabilization of liquid pressure in closed containers

SOURCE: Priborostroyeniye, no. 3, 1965, 16

TOPIC TAGS: fluid pressure, pressure compensator

ABSTRACT: Because of the large expansion coefficient of liquids (as compared with the material of containers) there appear specific difficulties in the design of various kinds of equipment involving liquid components. The existing temperature compensators usually involve hard to get materials and, consequently, the authors developed at the Institute of Problems of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR) a small device, shown in Fig. 1, for the reliable maintainance of a specified pressure of liquids in closed containers during temperature changes. Orig. art. has: 10 formulas and 1 figure.

Card 1/2 UDC: 681.2.088:536.41

L 40812-66

ACC NR: AP6010025

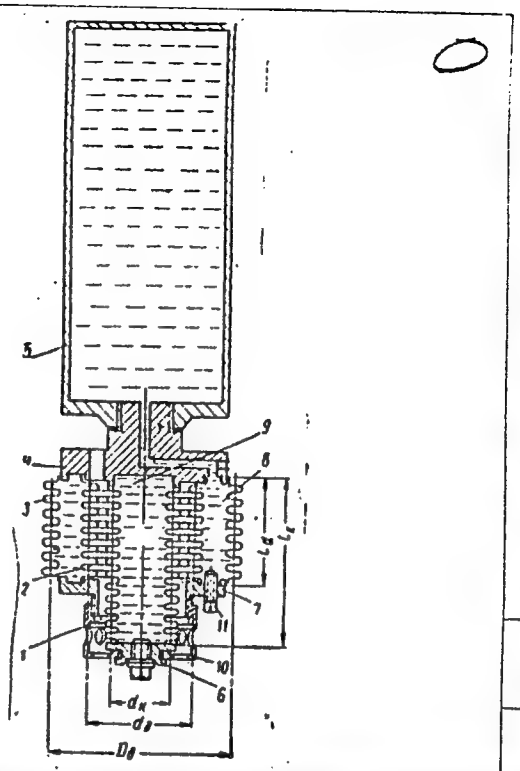

Fig. 1 Temperature pressure compensator.
1, 2, 3 - concentrically mounter sylphon bellows; 4 - fitting; 5 - container body; 6, 7 - dampers; 8, 9 - cavities; 10 - cap; 11 - control screw.

SUB CODE: 14/ SUBM DATE: none/ ORIG REF: 002

Card 2/2 MLP

SUBJECT USSR / PHYSICS CARD 1 / 2
AUTHOR LEBEDEV, A.A., STAFEEV, V.I., TUCKEVIC, V.M. PA - 1552
TITLE Some Properties of the Diodes consisting of Germanium with a Gold Admixture.
PERIODICAL Zurn. techn. fis, 26, fasc. 10, 2131-2141 (1956)
Issued: 11 / 1956

As gold atoms form two acceptor levels which are deep in the forbidden zone, the properties of germanium may depend in a high degree on the ratio of the concentrations of the gold atoms and donor admixture in the germanium. Let it be assumed that N_{Au} and N_D denote the concentration of the gold atoms and donor atoms respectively.

At $N_{Au} > N_D$ the germanium has hole-conductivity (here called germanium of the I. type), but at $2N_{Au} > N_D > N_{Au}$ it is electronic and the temperature dependence of the conductivity depends on the distance of the upper acceptor level of the gold from the bottom of the conductivity zone ($\Delta E = 0{,}2$ eV). (Here called germanium of the II. type). However, in the case of $N_D > 2N_{Au}$ all gold levels are stopped up at all temperatures, and the germanium then has electronic conductivity. (Here called germanium of the III. type). The admixture of gold exercises hardly any influence at all on the temperature dependence of conductivity. The diodes produced from germanium of the I., II., and III. types are here described as diodes of the I.II. and III. groups. The properties of Ge III are not deter-

Zurn. techn. fis, 26, fasc. 10, 2131-2141 (1956) CARD 2 / 2 PA - 1552

mined by the admixture of gold but only by the donor admixture, and they offer nothing new. Therefore only the diodes of groups I and II are investigated here. The temperature dependence of direct amperage in the diodes. At first the oscillograms of the diodes of the first group, made at room temperature and at higher temperatures, are given and discussed. After a certain (critical) voltage has been attained, the voltage on the diode declines sharply. If amperage is further increased, voltage remains constant. The discontinuity of the characteristic (breakdown) is most noticeable in the diodes of the II. group. The volt-ampére characteristics of this group deviates already below -50° C from the characteristic of the usual diodes. At still lower temperatures breakdown takes place. In the case of the diodes of the II. group the disruptive voltage grows rapidly within the range of from -160° to -200° C. The probable causes of these phenomena are discussed. The breakdown characteristic, by the way, depends on the intensity of illumination and on the field strength of a magnetic field which may possibly exercise its influence.

INSTITUTION: LFTI (= Leningrad Physical-Technical Institute) Leningrad.

SOV/56-23-6-25/28

AUTHORS: Malakhov, L. N., Vertsner, V. N., Lebedev, A. A.

TITLE: The Use of Shadow-electronoptical Methods in the Investigation of p - n-Transitions in Germanium (Primeneniye tenevogo elektronnoopticheskogo metoda k issledovaniyu germaniyevykh p - n-perekhodov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 770-772 (USSR)

ABSTRACT: Vavilov was the first to use this method for investigations of semiconductors (Ref 2), and reference is made in the introduction to the results obtained by the investigation described in p 765 of this issue, where formula (1) was deduced for the displacement. Further, several data are given for the experimental unit: accelerating voltage 50 kv, 200 to 300-fold enlargement, and a resolving power of up to from 0.1 to 0.2 μ. The investigations were carried out on ground and polished germanium monocrystals, and a scheme of the experimental unit (Fig 1) is shown. The optical axis of the instrument touches the edge of a germanium crystal, the electrons in the crystal move in a direction that is

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perpendicular to the optical axis. From the displacement of the net located in the focal plane of the objective, conclusions are drawn as to the voltage distribution on the edge of the crystal, and as positive and negative voltages are applied to the electrodes of the crystal, "zero" of the voltage becomes visible (Fig 2). The dependence of the width of the p - n-transition of Ge on the applied voltage becomes clearly visible. The authors finally thank Academician A. A. Lebedev for his valuable advice and discussions. There are 2 figures and 4 references, 3 of which are Soviet.

L 13061-63 BDS/EWT(l)/EWP(q)/EWT(m)/EEC(b)-2 AFFTC/ASD/ESD-3
AT/JD/IJP(C)

ACCESSION NR: AT3003007 S/2927/62/000/000/0220/0224

65
62

AUTHOR: Lebedev, A. A.; Tuchkevich, V. M.

TITLE: Investigation of p-n junction capacitance as function of temperature and frequency [Report of the All-Union Conference on Semiconductor Devices held in Tashkent from 2 to 7 October 1961]

SOURCE: Elektronno-dy*rochny*ye perekhody* v poluprovodnikakh. Tashkent, Izd-vo AN UzSSR, 1962, 220-224

TOPIC TAGS: germanium diode capacitance, silicon diode capacitance

ABSTRACT: Some theoretical works dealing with the junction capacitance are reviewed, and a source formula for admittance of a p-n junction is selected. Authers' experiments are described with the following semiconductor devices: (1) n-Ge diodes with a resistivity of 50-60 ohm/cm; the alloy junction area is 5-7 sq mm; (2) same, but the resistivity is 30-40 ohm/cm and the area is 3 sq cm; (3) diffusion-type Si rectifiers with a p-n junction area of 3 sq cm; source Si had n-type conductance and a resistivity of 30-40 ohm/cm. The capacitances were measured by a bridge method at 20-700 kc. Capacitance vs.

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L 13061-63

ACCESSION NR: AT3003007

frequency curves for various applied voltages are presented, as well as a number of auxiliary curves serving to compute the capacitance. It is inferred that the p-n junction capacitance of Ge and Si (alloy or diffusion) devices depend on both the temperature and the frequency. The capacitance is reliably described by the Tolpy*go and Rashba formula (ZhTF., 25, 1335, 1955). Orig. art. has: 6 figures and 5 formulas.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences SSSR); Akademiya nauk Uzbekskoy SSR (Academy of Sciences UzSSR); Tashkentskiy gosudarstvenny*y universitet (Tashkent State University)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: 00 NO REF SOV: 005 OTHER: 003

Card 2/2

L 18388-63 EWP(q)/EWT(m)/BDS AFFTC JD
ACCESSION NR: AP3003732 S/0109/63/008/007/1280/1281

58
57

AUTHOR: Galavanov, V. V.; Lebedev, A. A.; Rzayev, M. A.

TITLE: Capacitance of alloy p-n junction in InSb

27—27

SOURCE: Radiotekhnika i elektronika, v. 8, no. 7, 1963, 1280-1281

TOPIC TAGS: capacitance, InSb junction

ABSTRACT: Results are reported of an experimental determination of capacitance of a p-n junction obtained by alloying In into n-InSb. Single crystals of InSb with donor-impurity concentrations of 3×10^{14}, 2×10^{15}, and 2×10^{16} cm^{-3} were used as a source material. The p-n junction area was 0.02 cm^2. Thirty samples were measured at the liquid-nitrogen temperature, at 50-1,000 kc. The capacitance was found to depend on the frequency and smoothness of the junction surface. "In conclusion, we consider it our pleasant duty to thank D. N. Nasledov for his interest in this work." Orig. art. has: 2 figures and 1 formula.

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L 18388-63
ACCESSION NR: AP3003732

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR
(Physicotechnical Institute, AN SSSR)

SUBMITTED: 19Oct62 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: GE NO REF SOV: 000 OTHER: 006

Card 2/2

L 60839-65 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/AT
ACCESSION NR: AP5017667 UR/0109/65/010/007/1306/1309
539.293.011.41

AUTHOR: Galavanov, V. V.; Ziyakhanov, U.; Lebedev, A. A. 18 17

TITLE: Capacitive properties of alloy p-n junctions with a p-InSb base 21 B+1

SOURCE: Radiotekhnika i elektronika, v. 10, no. 7, 1965, 1306-1309

TOPIC TAGS: p n junction, junction capacitance, diffusion capacitance, alloy junction, indium antimonide alloy junction

ABSTRACT: The capacitive properties of alloy junctions formed by p-InSb crystals as the base material and an alloy of In and 1% Te were investigated. Junctions with effective areas of (5—8) x 10^{-3} cm^2 and majority carrier concentrations (N) in the range of 1 x 10^{13}—2 x 10^{16} cm^{-3} were tested in the 50—500 kc frequency range. The test results indicate a relationship $1/C^2 \sim U$, where C is the junction capacitance and U, the applied reverse bias. For U = 0, the barrier capacitance exhibited a linear dependence on the amount of the carrier concentration. When forward bias was applied to a junction with N = 7 x 10^{15} cm^{-3}, the measured capacitance considerably exceeded the value of the barrier capacitance. The diffusion capacitance C_{diff} was determined as the difference between the two and was in close agreement with the

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ACCESSION NR: AP5017667

magnitude of diffusion capacitance derived with the Shockley equation. From the slope of $C_{diff} = f(I)$, the minority carrier lifetime was estimated to be 4×10^{-8} sec for $N = 7 \times 10^{15}$ cm^{-3}. Upon application of large forward currents, the capacitance at first increases, but after reaching a maximum at a given current value, it degenerates into an inductance, as was previously observed in diodes with n-InSb as the base material. Increased temperature apparently reduces the contact potential and gives rise to increasing capacitance. Orig. art. has: 5 figures. [BD]

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 27Apr64 ENCL: 00 SUB CODE: EC

NO REF SOV: 003 OTHER: 001 ATD PRESS: 4063

jlk

Card 2/2

KOKUSHKIN, D.P.; FREYDENZON, Ye.Z.; KOMPANIYETS, I.A.; SHMONIN, G.M.; LEBEDEV, A.A.; ZATULOVSKAYA, Ye.Z.; Prinimali uchastiye: DUBROV, N.F.; PASTUKHOV, A.I.; ISAYEV, M.I.; STAROSELETSKIY, M.I.; AKSEL'ROD, L.M.

Improving the quality of a faceted ingot by changing the shape of its side surfaces. Stal' 25 no.7:610-612 Jl '65. (MIRA 18:7)

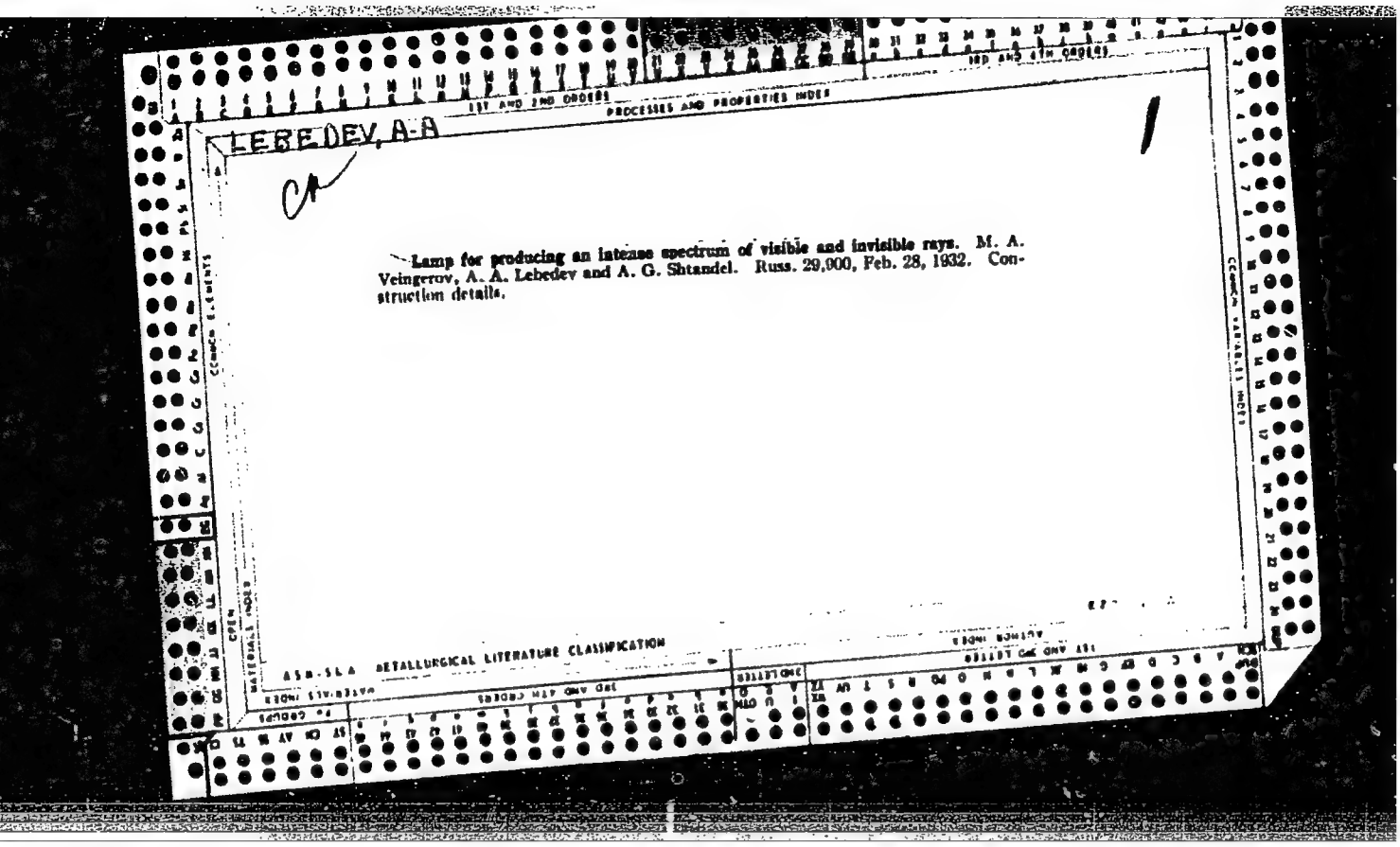
1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov i Nizhne-Tagil'skiy metallurgicheskiy kombinat.

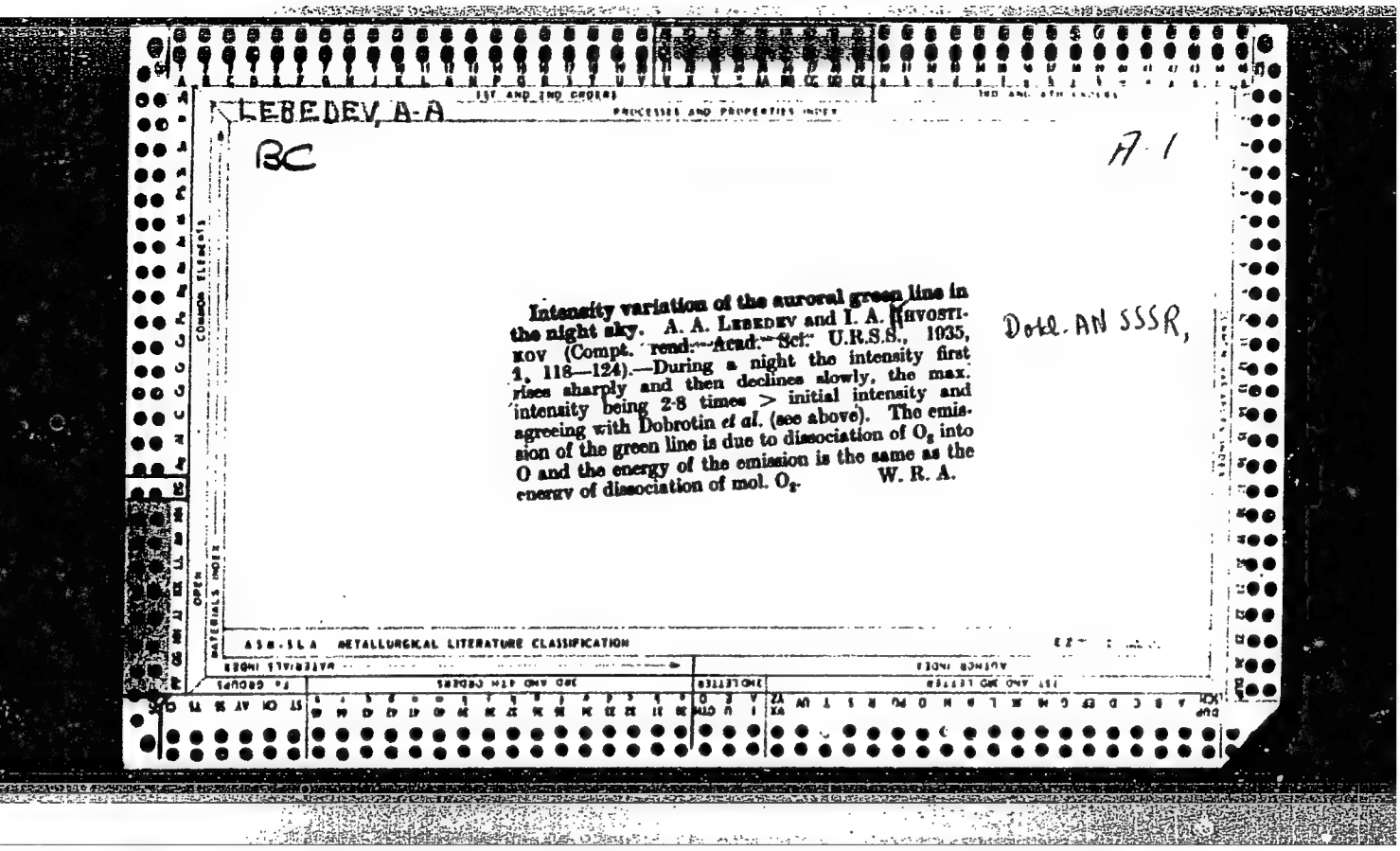
LEBEDEV, Aleksandr Alekseyevich

"Polymorphism and the Fritting of Glass," Trudy Gosudartsvennogo opticheskogo in-ta, Vol.2, No.10, ~~1922~~ 1921

LEBEDEV, A. A.

"The Polarization Interferometer and Its Use," Trudy Gosudarstvennogo optiches-kogo in-ta, 5, No.53, 1931





LEBEDEV, A-A

BC

A-1

Intensity variation of the auroral green line in the night sky. A. A. LEBEDEV and I. A. KHVOSTIKOV (Compt. rend. Acad. Sci. U.R.S.S., 1935, 1, 118—124).—During a night the intensity first rises sharply and then declines slowly, the max. intensity being 2·8 times > initial intensity and agreeing with Dobrotin *et al.* (see above). The emission of the green line is due to dissociation of O_3 into O and the energy of the emission is the same as the energy of dissociation of mol. O_3. W. R. A.

Dokl. AN SSSR,

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

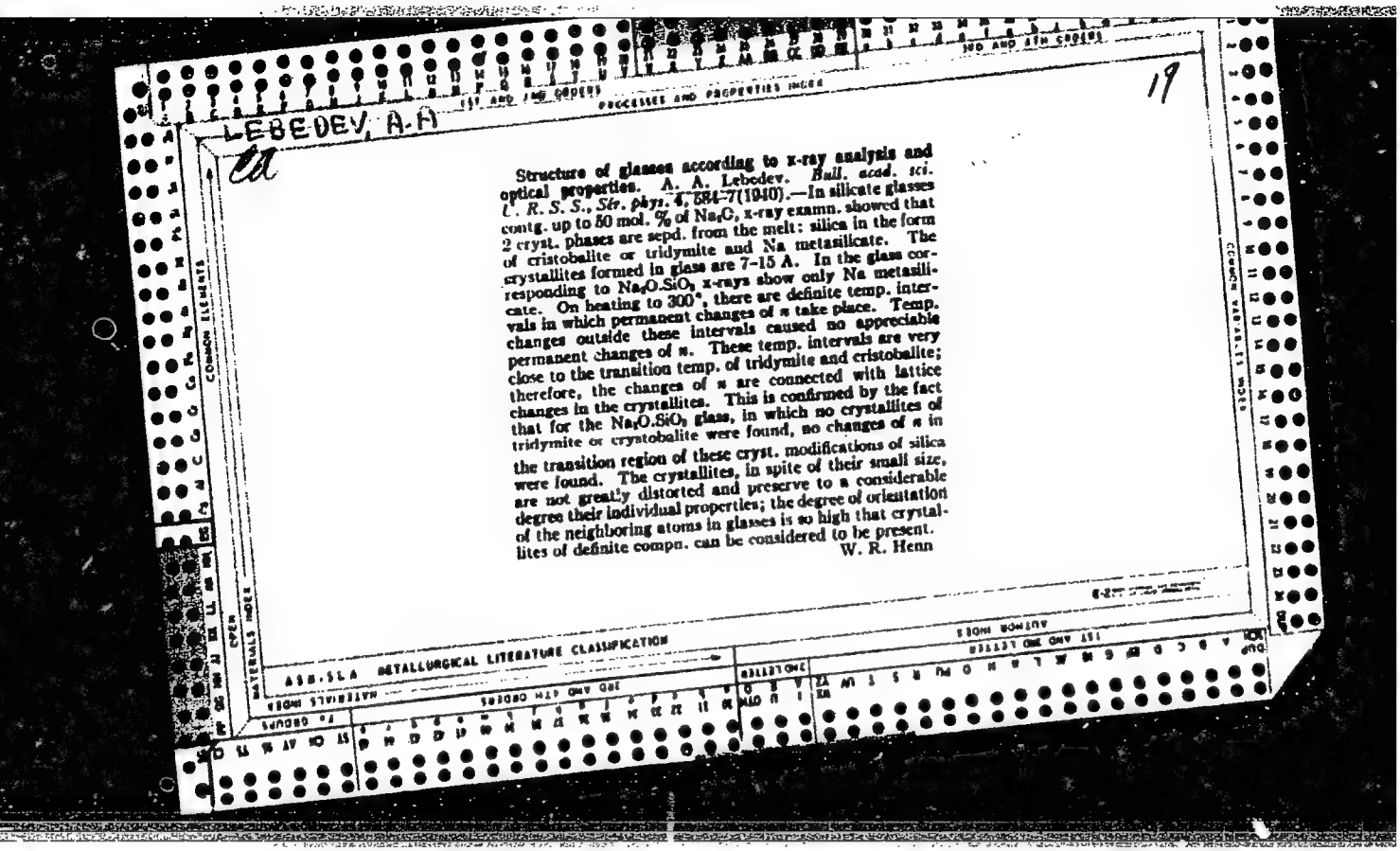
LEBEDEV, A.A.
BC

A-1

X-Ray analysis of the structure of glasses. A. A. LEBEDEV (Bull. Acad. Sci. U.R.S.S., 1937, Sér. Phys., 381—389).—The view that the crystallites in vitreous SiO_2 are either cristobalite or tridymite is supported; the size is of the order of 10—12 A. depending on the mode of prep. and heat-treatment. Soda glass (23% Na_2O) heated to 300° and then allowed to cool shows linear residual changes in refractive index at temp. corresponding with the transformations of cristobalite and tridymite.
F. J. L.

Iz. Ak. Nauk SSSR, Ser. Fiz.,

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

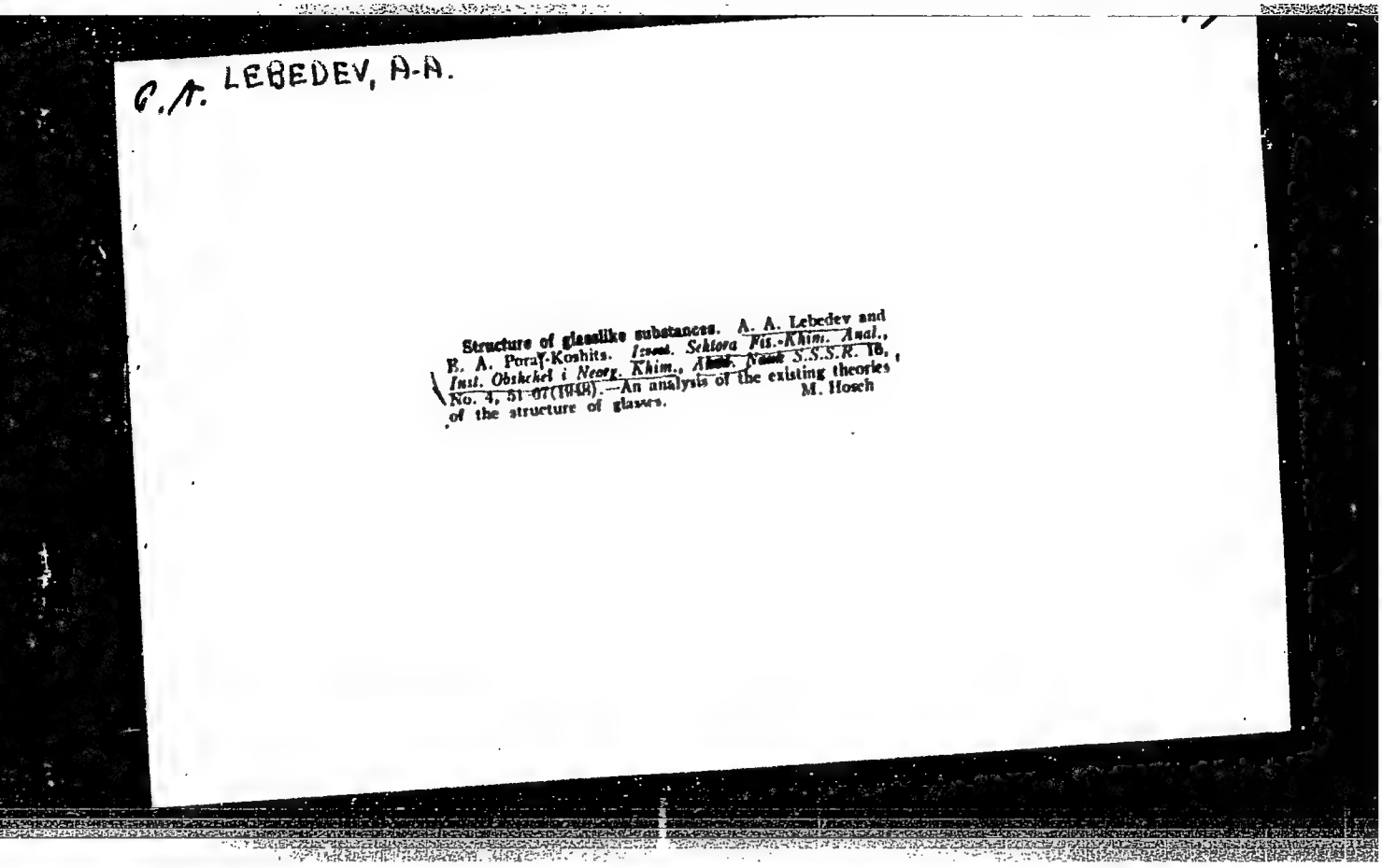


LEBEDEV, A.A

19

Structure of glasses according to x-ray analysis and optical properties. A. A. Lebedev. *Bull. acad. sci. U. R. S. S., Sér. phys.* 4, 584–7(1940).—In silicate glasses contg. up to 50 mol. % of Na_2O, x-ray examn. showed that 2 cryst. phases are sepd. from the melt: silica in the form of cristobalite or tridymite and Na metasilicate. The crystallites formed in glass are 7–15 A. In the glass corresponding to $Na_2O.SiO_2$ x-rays show only Na metasilicate. On heating to 300°, there are definite temp. intervals in which permanent changes of n take place. Temp. changes outside these intervals caused no appreciable permanent changes of n. These temp. intervals are very close to the transition temp. of tridymite and cristobalite; therefore, the changes of n are connected with lattice changes in the crystallites. This is confirmed by the fact that for the $Na_2O.SiO_2$ glass, in which no crystallites of tridymite or cryptobalite were found, no changes of n in the transition region of these cryst. modifications of silica were found. The crystallites, in spite of their small size, are not greatly distorted and preserve to a considerable degree their individual properties; the degree of orientation of the neighboring atoms in glasses is so high that crystallites of definite compn. can be considered to be present.

W. R. Henn



G.A. LEBEDEV, A-A.

Structure of glasslike substances. A. A. Lebedev and B. A. Poray-Koshits. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 13, No. 4, 51-67(1940).—An analysis of the existing theories of the structure of glasses. M. Hosch

~~A.A. LEBDEV~~
LEBEDEV, A.A.

"Diffraction of Electropa" (Diffraktsiya Electronov), Z.G. Pinsker, edited and with a forward by A. A. Lebedev, Academy of Sciences USSR, Moscow/Leningrad, 1949, 356 pages and 13 inclosures, 30 rubles.

This work gives the theoretical basis and experimental technique of electronography applicable to the problems of dispersion of electrons by crystals and molecules; the investigation of crystalline lattices; the processes of oxidation of metals and polished surfaces; amorphous substances and polymers. It is an exhaustive treatment, including the material written in the 21 years since the discovery of the phenomenon of the diffraction of electrons.

SO: Uspekh Khimii, Vol. 18, #6, 1949; Vol. 19, #1 1950 (W-10083)

FLORINSKAYA, V.A.; LEBEDEV, A.A., akademik.

Reflectance spectra of composite silicate glasses in the infrared range, before and after heat treatment. Dokl. AN SSSR 90 no.6:1011-1014 Je '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Lebedev).

(Glass manufacture) (Spectrum analysis)

YASTREBOV, V.A.; LEBEDEV, A.A., akademik.

Law of extinction of luminescence of solid organic substances. Dokl. AN SSSR 90 no.6:1015-1018 Je '53. (MLRA 6:6)

1. Fizicheskiy institut im. P.N.Lebedeva Akademii nauk SSSR (for Yastrebov). 2. Akademiya nauk SSSR (for Lebedev).
(Luminescence) (Solids)

IVANENKO, D.D.; KOLESNIKOV, N.N.; LEBEDEV, A.A., akademik.

Packing effect in the isotopic reaction of hydrogen and deuterium. Dokl. AN SSSR 91 no.1:47-50 Jl '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Lebedev). 2. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. (Hydrogen--Isotopes)

FLORINSKAYA, V.A.; PECHENKINA, R.S.; LEBEDEV, A.A., akademik.

Diffraction and absorption spectra of potassium silicate glasses in the infrared band. Dokl. AN SSSR 91 no.1:59-62 Jl '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Lebedev). (Glass) (Spectrum analysis)

LEBEDEV, A.A., akademik; TUNITSKAYA, V.F.

On the origin of separated bands in the phosphorescence of CaSBi-phosphori. Dokl.AN SSSR 91 no.3:507-510 Jl '53. (MLRA 6:7)

1. Fizicheskiy institut imeni P.N.Lebedeva Akademii nauk SSSR (for Tunitskaya). 2. Akademiya nauk SSSR (for Lebedev).
(Phosphorescence) (Spectrum analysis)

KAGAN, Yu.M.; PEREL', V.I.; LEBEDEV, A.A., akademik.

On the theory of ion beams collected by a probe at low pressures. Dokl.AN SSSR 91 no.6:1321-1324 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Lebedev). 2. Karelo-Finskiy gosudarstvennyy universitet. (Ions)

VUKS, M.F.; YELFIMOV, V.I.; LEBEDEV, A.A., akademik.

Values of the optic anisotrophy of molecules of benzene and carbon-bisulfide determined by light dispersion in solutions. Dokl.AN SSSR 92 no.1:29-32 S '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Lebedev). 2. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Vuks and Yelfimov).
(Benzene) (Carbon disulphide)

MALYSHEV, G.M.; FEDOROV, V.L.; LEBEDEV, A.A., akademik.

Use of narrow-band amplifiers for oscillographic investigation of the functions of electron distribution on the basis of electric discharge velocity. Dokl.AN SSSR 92 no.2:269-271 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Lebedev). 2. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Malyshev and Fedorov).
(Electric discharges through gases)

NARBUTT, K.I.; LEBEDEV, A.A., akademik.

X-ray absorption spectra of zinc while being chemically combined in the molecules of $ZnCl_2$, $ZnBr_2$ and ZnS. Dokl.AN SSSR 92 no.2:273-275 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Lebedev). 2. Institut geologicheskikh nauk Akademii nauk SSSR (for Narbutt). (Zinc) (Absorption spectra)

SHUKHTIN, A.M.; LEBEDEV, A.A., akademik.

Determination of vapor density beyond the anode and cathode in discharge tubes. Dokl.AN SSSR 92 no.2:289-291 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Lebedev). 2. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Shukhtin).
(Electric discharges through gases)

VANYUKOV, M.P.; KHAZOV, L.D.; LEBEDEV, A.A., akademik.

Photoelectric method for the registration of time modifications of spectra of light flashes. Dokl.AN SSSR 92 no.3:523-524 S '53. (MLRa 6:9)

1. Akademiya nauk SSSR (for Lebedev).
(Spectrum analysis) (Photoelectricity)

GALKIN, L.N.; KOROLEV, N.V.; LEBEDEV, A.A., akademik.

Petroleum in escence of PbS in the infrared spectral band. Dokl.AN SSSR 92 no.3:529-530 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Lebedev).
(Spectrum, Infra-red) (Luminescence) (Lead sulfide)

SHUKHTIN, A.M.; LEBEDEV, A.A., akademik.

Optical method for the determination of concentrations of unexcited atoms and molecules. Dokl.AN SSSR 92 no.3:553-555 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Lebedev).
(Atoms) (Molecules) (Absorption spectra)

BOROVSKIY, I.B.; BEZIRGANYAN, P.A.; LEBEDEV, A.A., akademik.

Diffraction of X-rays by curved crystals; integral intensity of reflection for the "path" method. Dokl.AN SSSR 92 no.6:1129-1132 O '53.

(MLRA 6:10)

1. Akademiya nauk SSSR (for Lebedev). 2. Institut metallurgii im. A.A.Baykova Akademii nauk SSSR (for Borovskiy and Bezirganyan).
(Crystallography, Mathematical) (X-rays--Diffraction)

NARBUTT, K.I.; LEBEDEV, A.A., akademik.

Investigation of X-ray absorption spectra of zinc and bromine as components of $ZnBr_2$ molecules. Dokl.AN SSSR 93 no.1:21-24 N '53. (MLRA 6:10)

1. Akademiya nauk SSSR (for Lebedev). 2. Institut geologicheskikh nauk Akademii nauk SSSR (for Narbutt).
(Zinc) (Bromine)
(Absorption spectra)

CHULANOVSKIY, V.M.; LEBEDEV, A.A., akademik.

Infrared adsorption spectra of the O - H group in water and certain other solutions. Dokl.AN SSSR 93 no.1:25-28 N '53. (MLRA 6:10)

1. Akademiya nauk SSSR (for Lebedev). 2. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Chulanovskiy).
(Absorption spectra) (Oxygen) (Hydrogen)

LEBEDEV, A.A., akademik, redaktor; MILYUTIN, V.I., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[Electron microscopy] Elektronnaia mikroskopiia. Pod red. A.A. Lebedeva. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 636 p.
(Electron microscope) (MLRA 7:10)

LEBEDEV, Aleksandr Alekseyevich, akademik.

Lens with the mark "P." Znan.sila no.7:24 Jl '54. (MLRA 7:7)
(Lenses)

KEL'MAN, V.M.; LEBEDEV, A.A., akademik, redaktor; SMIRNOVA, A.V. tekhnicheskiy redaktor.

[Electron optics] Elektronnaia optika. Moskva, Izd-vo Akademii nauk SSSR, 1955. 163 p. (MLRA 8:10)
(Electron optics)

LEBEDEV A. A.

53

Structure of Glass—Report of a Symposium on the Structure of Glass, Leningrad, November 23 to 27, 1953. Edited by A. A. Lebedev, N. A. Toropov, V. P. Barzakovskii, and A. S. Avilov. Akademiya Nauk S.S.S.R., Leningrad-Moscow, 1955. 303 pp.—Upon the invitation of the Institute of Silicate Chemistry of the Academy of Sciences U.S.S.R., the State Optical Institute, and the Leningrad Section, All-Union Society of Silicate Technological Research, a symposium on the structure of glass was organized; which was attended by more than 500 representatives from 90 institutions and 28 cities of the U.S.S.R. The introductory address by A. A. Lebedev emphasizes the importance of structural conversions in glass as the basis of many phenomena which cannot be explained otherwise, e.g., the annealing range of optical glass, the luminescence, and the diffraction of X rays, electrons, and neutrons. The crystallites, as assumed in some theories, in the order of magnitude of 10 to 15 a.u. should be detectable through more accomplished electron microscopic methods in the future. The chain structures assumed by others are still hypothetical; their confirmation would be an important approach toward the manufacture of unbreakable glass. The titles of the papers read in the symposium are as follows: K. S. Evstrop'ev: "Crystallite theory of glass structure" (pp. 9–18). P. P. Kobeko: "Structure and properties of organic glasses" (pp. 19–25). O. K. Botvinkin: "Glass structure" (pp. 26–29). E. A. Poral-Koshits: "Possibilities and results of X-ray methods in the investigation of glassy materials" (pp. 30–43). O. A. Esin and P. V. Gel'd: "Structural

M. A. POUTZ
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A. A. LEBEDEV

nature of glassy and liquid silicates" (pp. 44–55). E. F. Gross and V. A. Kolesova: "Combination scattering of light and structure of glassy materials" (pp. 56–61). V. V. Tarasov: "Quantum theory of heat conductance and structure of silicate glasses" (pp. 62–69). V. A. Florinskaya and R. S. Pechenkina: "Spectra of simple glasses in the infrared and their relations to the structure of glass" (pp. 70–95). A. A. Appen: "Coordination principle in the distribution of ions in silicate glasses" (pp. 90–106). L. I. Demkina: "Ideas on the fine structure of silicate glasses resulting from investigations on the properties of glasses in simple systems" (pp. 107–19). A. I. Stozharov: "Measurement of the thermal expansion of glass as a method for the investigation of its structure" (pp. 120–25). L. G. Mel'nichenko: "Theoretical opinions of D. I. Mendeleev on the structure of silicates and glasses and their importance for the actual science" (pp. 126–35). V. P. Barzakovskiĭ: "Ideas of D. I. Mendeleev on the chemical character of silicates" (pp. 136–40). O. S. Molchanova: "Properties of glasses in the ternary system Na_2O–B_2O_3–SiO_2" (pp. 141–44). E. A. Poral-Koshits: "Structure of Na borosilicate glasses" (pp. 145–61). S. P. Zhdanov: "Structure of glass as seen from the results of the investigation of the structure of porous glasses and films" (pp. 162–75). D. P. Dobychin: "State of SiO_2 in microporous glass" (pp. 176–80). S. K. Dubrovo: "Corrosion of glassy silicates and of Na aluminosilicates by aqueous solutions in its relation to the state of SiO_2 in glass" (pp. 181–84). A. F. Zak: "Existence of distinct chemical compounds in the glass structure" (pp. 185–86). Yu. A. Gastev: "Chemical stability of glass" (pp. 187–89). N. A. Tudorovskaya: "Structural variabilities of the light refractive index of glass at temperatures below 300°C." (pp. 190–97). D. I. Levin: "Rayleigh scattering in glasses and the glass structure" (pp. 198–201). M. M. Gurevich: "Spectral relation of

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A. A. LEBEDEV

light scattering in Na borosilicate glasses" (pp. 202–206). A. N. Sevchenko: "Application of the luminescence method for the investigation of the glassy state" (pp. 207–15). G. O. Bagdyk'yants: "The problem of an oriented structure of glass" (pp. 216–18). V. I. Shelyubskii: "Application of the electron microscope to the investigation of glass" (pp. 219–23). L. A. Afanas'ev: "Experiments on the electronographic study of industrial glasses" (pp. 224–26). A. I. Avgustinik: "Some properties of highly aluminous glasses" (pp. 227–29). N. V. Solomin: "Chemical compounds in borate glasses" (pp. 230–33). G. A. Kolykov: "Selective volatility of components of the system Na_2O–B_2O_3–SiO_2, a method for the investigation of the nature of the glassy state" (pp. 234–44). A. G. Bergman: "Visual-polythermic method for the investigation of crystallization in glasses and silicate systems" (pp. 245–47). V. A. Kozheurov: "Phenomenon of limited miscibility in binary silicate melts" (pp. 248–50). V. T. Slavyanskii: "Temperature function of viscosity and structure in some glassy and liquid materials" (pp. 251–55). M. M. Skomyakov: "Viscosities of glasses above and below the liquidus temperature" (pp. 256–57). V. A. Ioffe: "Dielectric losses in silicate glasses" (pp. 258–63). B. I. Markin: "Electric conductance of simple borate systems in the glassy state" (pp. 264–66). V. A. Presnov: "I, Electric

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A. A. LEBEDEV

conductance of glasses in strong electric fields; II, The wetting of metals by glass" (pp. 267–69). V. P. Pryanishnikov: "Electric conductance of silica glass" (pp. 270–72). K. P. Azarov: "Structure of enamels and their properties" (pp. 273–75). A. G. Repa: "Oxygen potential of glass" (pp. 276–79). L. V. Sergeev: "The glassy state of organic polymers" (pp. 280–82). Yu. N. Andreev: "Problems of the methodological basis of the actual ideas on the structure of glass" (pp. 283–89). The ample discussions (pp. 293 to 302) include the following main items: general remarks on the nature of glass; physical chemistry of polycomponent systems and the glass structure; optical properties and glass structure; caloric and electrical properties and the structure of glass; crystallochemistry and glass structure; and problems of further development of glass science. The concluding address of A. A. Lebedev (pp. 300–02), and the official resolution of the Symposium Meeting (pp. 303–05) announce plans for another Symposium on the Structure of Liquids and, in 1956, the third Symposium on the Structure of Glass, under the auspices of the Academy of Sciences U.S.S.R. The present volume is excellently printed and illustrated; it is a real milestone in the evolution of modern investigations on glass structure.

W. Eitel

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LEBEDEV, A A

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8565. AN OPTICAL RANGEFINDER FOR GEODESIC SURVEYS. A.A.Lebedev, V.V.Belazov and [illegible] Dokl. Akad. Nauk SSSR, Vol. 104 No 3, 458-60 (1956) In Russian.

Uses a modulated light source to transmit [illegible] flector from which it is received by a modulated detector. [illegible] variation of the phase difference between the [illegible] and receiver enables the distance to be measured. The modulation at a frequency of the order of 1-5 Mc/s is achieved by using a Michels[illegible]

Lebedev A. A.

AUTHORS: Berlaga, P. Ya., Candidate o Physical and Mathematical Sciences, Berzh.., V. N., Candidate of Physical and Mathematical Sciences, Lebedev, A. A., Academician. 32-1o-18/32

TITLE: Electron Microscopy in the Soviet Union (Elektronnaya mikroskopiya v Sovetskom Soyuze)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol 23, Nr 1o, pp 1214-1219 (USSR)

ABSTRACT: Both the development and the latest achievements of electron microscopy are described in the introduction by drawing special attention to the successes achieved in England (Menter) where the crystalline lattice with intercrystalline distances was immediately observed for the first time. In the chapter: The elaborate studies for manufacturing a Soviet electron microscope it is stated that the first electron microscopes constructed by Lebedev were produced in 1945 and that they were later (1949) to industrial purposesby M. Ivanov under the trade mark " M-3". The further developed instruments " M-3M" which, among others, were also equipped with electronographic accessories for electronic graph recording in the transitory and reflected rays and which allow an enlargement up to the 4o.ooo fold, were produced for the first time in 1953. Ultimate preparations are made at present for the production of the latest Soviet electron microscope "YM5-1oo" which"should be equal" to the

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best foreign models. Its technical data will be: 2oA at an accelerating voltage of 5o, 75 and 1oo KW, constructed by V. Polivanov, P. Stoyanov, and G. Mikhaylovskiy. The latest type of the electron miroscope " M-3" at 25 A and continously increasing enlargement of 1ooo to 5oooo times at 4o, 5o, 6o KW, is also already being produced; it will make it possible to achieve a microdiphraction in transitory electron rays, to carry out an electronic graph, and to make sterescopic photographs. Yanchevskiy, K. Milyutin, V. and Fetisov, D., after many years of research, also completed other plans for further electron-microscopes among which are " CM-6o" and "M CM-4o" of 6o and 4o KW at δ_1- 5o A, and δ_2=6o A. Moreover, an emission electron microscope" M-75" with δ=5oo A and 75 KW, as well as a series of other microscopes were elaborated for special purposes (electron emission) by Rozebfel'd A., P. Zaytsev, and Yu. Zolotarenko. In the chapter: Electron-microscopical elaborate investigations it is stated that there are actually more than 4oo electron microscopes in operation in the USSR, which is much fewer than in the U.S.A. where approximately 5oo of these apparatus exist. Variations of elaborate investigations on cathodes, their activation, phenomena of migration and adsorption are described and mentioned in this chapter. Eventually the application of electron pro-

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jectors which allow a 2 million-fold enlargement (spherical projector) is practised. Electron microscopy is applied in the USSR in the fields of metallography, geology, biology, bacteriology, and medicine. (Examples are given).

AVAILABLE: Library of Congress

1. Electron microscopy-USSR 2. Electron microscopy-Development
3. Electron microscopy-Application

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SOV-25-58-7-19/56

AUTHOR: Lebedev, A.A., Linnik, V.P. and Terenin, A.A., Academicians

TITLE: None Given

PERIODICAL: Nauka i zhizn', 1958, Nr 7, p 18 (USSR)

ABSTRACT: The above-named academicians express their judgement regarding the creation of Soviet diffraction gratings. They stress the importance of such gratings in carrying out scientific research and industrial tasks. It is impossible to overrate the importance of Soviet production of diffraction gratings, because it establishes favorable conditions for considerable technical progress in spectroscopical research and optical device construction.

1. Diffraction gratings--USSR

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LEBEDEV, A.A.

PHASE I BOOK EXPLOITATION SOV/5035

Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 3d, Leningrad, 1959.

Stekloobraznoye sostoyaniye; trudy Tret'yego vsesoyuznogo soveshchaniya Leningrad, 16-20 noyabrya 1959 (Vitreous State; Transactions of the Third All-Union Conference on the Vitreous State, Held in Leningrad on November 16-20, 1959) Moscow, Izd-vo AN SSSR, 1960. 534 p. Errata slip inserted. 3,200 copies printed. (Series: Its: Trudy)

Sponsoring Agencies: Institut khimii silikatov Akademii nauk SSSR. Vsesoyuznoye khimicheskoye obshchestvo imeni D.I. Mendeleyeva and Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova.

Editorial Board: A.I. Avgustinik, V.P. Barzakovskiy, M.A. Bezborodov, O.K. Botvinkin, V.V.Vargin, A.G. Vlasov, K.S. Yevstrop'yev, A.A. Lebedev, M.A. Matveyev, V.S. Molchanov, R.L. Myuller, Ye.A. Poray-Koshits, Chairman, N.A. Toropov, V.A. Florinskaya, A.K. Yakhkind; Ed. of Publishing House: I.V. Suvorov; Tech. Ed.: V.T. Bochever.

PURPOSE: This book is intended for researchers in the science and technology of glasses.

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COVERAGE: The book contains the reports and discussions of the Third All-Union Conference on the Vitreous State, held in Leningrad on November 16-19, 1959. They deal with the methods and results of studying the structure of glasses, the relation between the structure and properties of glasses, the nature of the chemical bond and glass structure, and the crystallochemistry of glass. Fused silica, mechanism of vitrification, optical properties and glass structure, and the electrical properties of glasses are also discussed. A number of the reports deal with the dependence of glass properties on composition, the tinting of glasses and radiation effects, and mechanical, technical, and chemical properties of glasses. Other papers treat glass semiconductors and soda borosilicate glasses. The Conference was attended by more than 300 delegates from Soviet and East German scientific organizations. Among the participants in the discussions were N.V. Solomin, Ye. V. Kuvshinskiy, Yu.A. Gastev, V.P. Pryanishnikov, Yu. Ya. Gotlib, O.P. Mchedlov-Petrosyan, G.P. Mikhaylov, S.M. Petrov, A.N. Lazarev, D.I. Levin, A.V. Shatilov, N.T. Ploshchinskiy, A.Ya. Kuznetsov, E.V. Degtyareva, G.V. Byurganovskaya, A.A. Kalenov, M.M. Skornyakov, P.Ya. Bokin, E.K. Keller, Ya.A. Kuznetsov, V.P. Pozdnev, R.S. Shevelevich, Z.G. Pinsker, and O.S. Molchanova. The final session of the Conference was addressed by Professor I.I. Kitaygorodskiy, Honored Scientist and Engineer, Doctor of Technical Sciences. The following